

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Barsun et al.

Confirmation No.:

Application No.:

Examiner:

Filing Date:

Group Art Unit:

Title: HEAT DISSIPATING ARRANGEMENT

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e)(1) or (2), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☒ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. EV 431597536 US

Date of Deposit 3/18/2004

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Typed Name: Carolyn Simpson

Respectfully submitted,

Barsun et al.

By

Todd A. Rathe

Todd A. Rathe

Attorney/Agent for Applicant(s)

Reg. No. 38,276

Date: 3/18/2004

**CONCISE EXPLANATION OF RELEVANCE OF DOCUMENTS NOT IN THE  
ENGLISH LANGUAGE**

**JP 2000-174182**

**PROBLEM TO BE SOLVED:** To prevent a breakage of an element caused by an impact without direct transmission of an external impact to a heat sink to the element, by a buffering operation of a biasing means by bringing the sink into contact with the element through the biasing means and a heat transfer pin.

**SOLUTION:** The heat sink 10 comprises a heat transfer pin 18 provided projectably from or retractably in a chip 12 on an opposed surface 14a to the chip 12, and further the biasing spring 20 provided in a protruding direction of the pin 18. Here, the biasing spring 20 is compressed while urging the pin 18 to the chip 12, and a heat sink body 14 is fixed to a circuit board 11 by a spacer 32. When the chip 12 is energized and heated in this state, a heat is radiated from the pin 18 through a pin socket 22, the body 14 and radiating fins 16. An external impact to the sink 10 is given to the board 11 through the spacer 32, but the pin 18 brought into contact with the chip 12 is biased by a spring force, the impact is absorbed by the biasing spring 20 to prevent a damage of the chip 12.

**DE 37 35 985 A1**

A thermally conductive module for locally extracting heat from an individual electrical component of a circuit board installation comprises a tubular metal housing 1 of high thermal conductivity closed at one end 2 and having at that end a screw-threaded stud 12 for securing the housing to and in thermal contact with a thermal conductor. A spring-loaded metal piston 4 of high thermal conductivity is slidably mounted in the bore 3 of, and protrudes from, the housing 1 and has a throughbore 8 opening into the exposed end face 9. A grease-like medium 10 of high thermal conductivity is contained in the closed bore 3 of the housing 1. When the housing 1 is secured in thermal contact with a thermal conductor and the exposed end face 9 of the piston 4 is brought into thermal contact with an electrical component from which heat is to be extracted, the piston is urged against the action of its associated coil spring 6 and grease-like medium 10 exudes from the throughbore 8 and flows between the exposed end face 9 of the piston and the electrical component to provide an effective thermal contact therebetween.

**PATENT APPLICATION**

Sheet 1 of 1

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	ATTY. DOCKET NO. <b>200313138-1</b>	APPLICATION NO.	CONFIRMATION NO.
APPLICANT <b>Barsun et al.</b>			
FILING DATE		GROUP	

**REFERENCE DESIGNATION                      U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	6,580,611 B1	06/17/2003	Vandentop et al.	
	1B	6,574,107 B2	06/03/2003	Jeon et al.	
	1C	6,554,060 B2	04/29/2003	Noda et al.	
	1D	6,535,387 B2	03/18/2003	Summers et al.	
	1E	6,482,520 B1	11/19/2002	Tzeng	
	1F	6,469,898 B1	10/22/2002	Rouchon	
	1G	6,466,444 B2	10/15/2002	Cheung	
	1H	6,449,160 B1	09/10/2002	Tsai	
	1I	6,407,922 B1	06/18/2002	Eckblad et al.	
	1J	6,385,047 B1	05/07/2002	McCullough et al.	
	1K	6,385,044 B1	05/07/2002	Colbert et al.	

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L	JP2000174182	06/23/2000	Kubota		
	1M	DE37 35 985	05/11/1988	Horne		
	1N					
	1O					
	1P					

**OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)**

	1Q	
	1R	
	1S	

EXAMINER	DATE CONSIDERED
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FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
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(Use several sheets if necessary)

ATTY. DOCKET NO.

200313138-1

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APPLICANT

Barsun et al.

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GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	2A	6,382,307 B1	05/07/2002	Wang et al.	
	2B	6,351,384 B1	02/26/2002	Daikoku et al.	
	2C	6,330,906 B1	12/18/2001	Wang	
	2D	6,330,153 B1	12/11/2001	Ketonen et al.	
	2E	6,315,033 B1	11/13/2001	Li	
	2F	6,313,994 B1	11/06/2001	Tantoush	
	2G	6,163,073	12/19/2000	Patel	
	2H	6,141,220	10/31/2000	Lin	
	2I	6,125,037	09/26/2000	Bollesen	
	2J	6,101,093	08/08/2000	Wong et al.	
	2K	5,946,188	08/31/1999	Rochel et al.	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	2L					
	2M					
	2N					
	2O					
	2P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	2Q	
	2R	
	2S	

EXAMINER

DATE CONSIDERED

**PATENT APPLICATION**

Sheet 3 of 3

<p><b>FORM PTO-1449</b></p> <p><b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b></p> <p align="center">(Use several sheets if necessary)</p>	<p>ATTY. DOCKET NO. <b>200313138-1</b></p>	<p>APPLICATION NO.</p>	<p>CONFIRMATION NO.</p>
<p>APPLICANT <b>Barsun et al.</b></p>			
<p>FILING DATE</p>		<p>GROUP</p>	

**REFERENCE DESIGNATION                      U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A	5,930,115	07/27/1999	Tracy et al.	
	3B	5,815,371	09/29/1998	Jeffries et al.	
	3C	5,790,379	08/04/1998	Kang	
	3D	5,757,621	05/26/1998	Patel	
	3E	5,751,063	05/12/1998	Baba	
	3F	5,625,229	04/29/1997	Kojima et al.	
	3G	5,377,745	01/03/1995	Hsieh	
	3H	4,104,700	08/01/1978	Hutchison et al.	
	3I	3,934,177	01/20/1976	Horbach	
	3J				
	3K				

**FOREIGN PATENT DOCUMENTS**

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	3L					
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	3O					
	3P					

**OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)**

	3Q	
	3R	
	3S	

<p>EXAMINER</p>	<p>DATE CONSIDERED</p>
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